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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,376	03/31/2004	William A. Ivancic	12691	5502

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BATTELLE MEMORIAL INSTITUTE
505 KING AVENUE
COLUMBUS, OH 43201-2693

EXAMINER

RAMDHANIE, BOBBY

ART UNIT	PAPER NUMBER
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1709

MAIL DATE	DELIVERY MODE
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07/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/814,376	Applicant(s) IVANCIC ET AL.	
	Examiner Bobby Ramdhanie, Ph.D.	Art Unit 1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/31/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, & 4-8 is/are rejected.
- 7) ☒ Claim(s) 2 & 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The Declaration needs to be corrected to show domestic priority of provisional applications 60/459378 and 60/460743. Appropriate action is required.

Claim Objections

2. Claim 7 & 8 are objected to because of the following informalities: Claims 7 & 8 are dependent on non-existent claims 101 and 102, respectively. Examiner takes the position that Claim 7 is dependent on Claim 6; and Claim 8 is dependent on Claim 7. Examiner has examined these claims in the instant application on their merits using this order of dependency. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6, & 7, & 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Amirav et al (US 5742050). Regarding Claim 6, Amirav et al teaches a method according to Claim 6 comprising: A). Collecting samples for analysis of impurities in or on a sample comprising irradiating a sample area with laser energy sufficient to vaporize an analyte or break down a material containing an analyte and vaporizing the analyte (Column 4 lines 38-40); and B). Sweeping said vaporized analyte into an absorbent trap (Column 4 lines 43-44). Examiner takes the position that the filter is equivalent to an absorbent trap.

3. For Claim 7, Amirav et al teaches all of the limitations of Claim 6 and further teaches a method according to Claim 7, comprising the additional steps of C.) Placing the absorbent trap into a thermal desorber and heating the absorbent trap to vaporize the analyte (Column 4 line 45-47, Column 5 lines 31-36); and D). Measuring the vaporized analyte (Claim 1).

4. For Claim 8, Amirav et al teaches a method according to Claim 7, wherein the vaporized analyte is measured by GC-MS or GC techniques (Column 1 lines 15-21).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1, 4, & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amirav et al in view of Günther et al. Regarding Claim 1, Amirav et al teaches a sample collector assembly comprising (I) A frame forming a sampling enclosure with a sampler opening (Figures 1 & 2); (II) A lens control assembly mounted to said frame and in communication with said sampling enclosure, for focusing a laser beam onto a sample through said sampler opening and vaporizing an analyte from a sample; (III) An absorbent trap mounted to said frame and in communication with said sampling enclosure (Figures 1 & 2); and (IV) A gas moving system mounted to said frame for providing a flow of gas to said sampling enclosure for moving vaporized analyte to said absorbent trap (Column 4 lines 40-42). Amirav et al does not teach a mirror as part of a lens control assembly for focusing a laser beam. Günther et al teaches this feature. Günther et al teaches a schematic for a laser ablation system used for vaporizing an analyte from a sample, which uses both a mirror and lens control assembly for focusing a laser beam onto a sample (Figure 1). It would have been obvious to one of ordinary skill at the time the invention was made to modify Amirav et al with Günther et al

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because according to Günther et al, a laser ablation set-up as shown in Fig. 1 has been known since 1985 and has been shown to be a powerful tool in the analytical sciences (Page 383, Column 1, 1st Paragraph and Figure 1).

5. Claim 4, Amirav et al teaches a sample collector assembly according to Claim 1, wherein a heater is mounted to said frame for heating said frame and sampling enclosure (Column 4 lines 45-47) except Amirav et al does not teach a mirror as part of a lens control assembly for focusing a laser beam. Günther et al teaches this feature. Günther et al teaches a schematic for a laser ablation system used to vaporizing an analyte from a sample, which uses both a mirror and lens control assembly for focusing a laser beam onto a sample (Figure 1). It would have been obvious to one of ordinary skill at the time the invention was made to modify Amirav et al with Günther et al because according to Günther et al, a laser ablation set-up as shown in Fig. 1 has been known since 1985 and has been shown to be a powerful tool in the analytical sciences (Page 383, Column 1, 1st Paragraph and Figure 1). Examiner takes the position that the temperature-controlled oven is a heater. Examiner also takes the position that the heater extends into the sample collector assembly (Figure 2) and therefore can heat both the frame and the sampling enclosure.

2. For Claim 5, Amirav et al teaches a sample collector according to Claim 1, wherein one or more thermocouples are mounted to said frame for controlling temperature in the sample collector assembly Amirav et al does not teach a mirror as part of a lens control assembly for focusing a laser beam. Günther et al teaches this feature. Günther et al teaches a schematic for a laser ablation system used to

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vaporizing an analyte from a sample, which uses both a mirror and lens control assembly for focusing a laser beam onto a sample (Figure 1). It would have been obvious to one of ordinary skill at the time the invention was made to modify Amirav et al with Günther et al because according to Günther et al, a laser ablation set-up as shown in Fig. 1 has been known since 1985 and has been shown to be a powerful tool in the analytical sciences (Page 383, Column 1, 1st Paragraph and Figure 1). Examiner takes the position that the temperature-controlled oven extends into the sample collector; therefore the temperature-controlled oven can control the temperature in the sample collector assembly. In order for the oven to regulate temperature thermocouples need to be directed attached to the oven (one or more). Since the temperature-controlled oven is part of the frame, and the thermocouples are attached to the oven, Examiner takes the position that the thermocouples are mounted to said frame.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amirav et al and Chace et al (US 6495825) and in further view of McKelvy et al. Regarding Claim 8, Amirav et al teaches all of the limitations of Claim 8 and further teaches a method according to Claim 8 where the vaporized analyte is measured by GC-MS, GC or nuclear techniques. Amirav et al does not teach a method wherein the vaporized analyte is measured by I.R. analysis. Chace et al teaches an apparatus for capturing volatiles for measuring by FTIR or MS analysis (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Amirav et al with Chace et al because according to McKelvy et al, modern instrumentation allows the collection of infrared spectra of materials at low-picogram levels. The ability of

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infrared spectroscopy to examine and identify materials under such a wide variety of conditions has earned this technique the premier position as the "workhorse" of analytical science (Page 93R, Overview of Analytical Infrared Spectroscopy; Last Paragraph). Examiner takes the position that FT-IR is the same as I.R. analysis. MS or mass spectroscopy is a nuclear technique that can be used to determine nuclear isotope ratios of radio-labeled compounds.

Allowable Subject Matter

4. Claims 2 & 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Regarding Claim 2, Claim 2 teaches a feature of using a quick disconnect for mounting and removal of said absorbent trap. The prior art of record does not teach nor disclose a trap of this kind with the quick disconnect feature.

5. For Claim 3, Claim 3 teaches a sample collector that includes a magnetic holder feature for holding the sample collector against a magnetic surface. The prior art of record does not teach nor disclose a sample collector with the claimed limitations of a magnetic holder feature.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bobby Ramdhanie, Ph.D. whose telephone number is 571-272-1447. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BR


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER